



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,591	11/10/2003	Jeong-hwan Lee	SWO-0002	6244

23413 7590 02/02/2006

CANTOR COLBURN, LLP  
55 GRIFFIN ROAD SOUTH  
BLOOMFIELD, CT 06002

EXAMINER
----------


HAN, JASON

ART UNIT	PAPER NUMBER
----------	--------------

2875

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/705,591	Applicant(s) LEE ET AL.	
	Examiner Jason M. Han	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-17, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 12 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20051020</u> .  | 6) <input checked="" type="checkbox"/> Other: <u>WO 03/032073 A1</u> .      |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to Claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

---

The following claims have been rejected in light of the specification, but rendered the broadest interpretation as construed by the Examiner [MPEP 2111].

---

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Applicant recites the limitation, "wherein the protrusion of the reflector has a diameter" [underline added], but fails to teach a definite circular, spherical, or cylindrical shape beforehand for said protrusion. Therefore, Applicant should provide basis for defining a diameter prior to the limitation.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Art Unit: 2875

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 4-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Sinkoff (U.S. Patent 6724529).
4. With regards to Claim 1, Sinkoff discloses a reflecting apparatus including:
  - A base film [Figures 2-4: (60)];
  - A protrusion [Figures 2-4: (M)] provided on a first surface of the base film; and
  - A reflecting layer [Figures 2-4: (50)] deposited on the base film and the protrusion, for reflecting light generated from a lamp [inherent; it has also been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations – *Ex parte Masham*, 2 USPQ2d 1647 (1987)].
5. With regards to Claim 4, Sinkoff discloses the protrusion [Figures 2-4: (M)] being embossed on the base film [Column 3, Lines 23-27].
6. With regards to Claim 5, Sinkoff discloses the reflector including a plurality of the protrusions having a dotted patten [Figures 2-4: (M); Column 3, Lines 23-30].
7. Claims 1 and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by Onishi et al. (WO 03/032073 A1).
8. With regards to Claim 1, Onishi discloses a reflector for a backlight assembly for use in an LCD device, including:

Art Unit: 2875

- A base film [Figures 1-2: (2)];
- A protrusion [Figures 1-2: (2)] provided on a first surface of the base film; and
- A reflecting layer [Figures 1-2: (1)] deposited on the base film and the protrusion, for reflecting light generated from a lamp [Figure 1: (5)].

9. With regards to Claim 9, Onishi discloses a light guide plate [Figure 1: (4)] disposed on the reflector; and a lamp unit [Figure 1: (5)] disposed at a side of the light guide plate, for emitting light into the light guide plate.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sinkoff (U.S. Patent 6724529).

Sinkoff discloses the claimed invention as cited above, but does not specifically teach the protrusion being made of elastic material (re: Claim 2), nor being made of silicon resin (re: Claim 3).

However, Sinkoff does teach, "U.S. Pat. No. 4,089,587 to Schudel ("587 Patent") discloses a projection screen having a film which is constructed of a partially deformable, resilient material" [Column 2, Lines 47-49].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the protrusion out of an elastic material such as

Art Unit: 2875

silicon resin, since it has been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416. In this case, providing the protrusion with an elastic material [e.g., silicon resin] would provide further protection to the reflecting film as well as the device.

11. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sinkoff (U.S. Patent 6724529) as applied to Claim 1 above, and further in view of Yang et al. (U.S. Patent 6151089).

Sinkoff discloses the claimed invention as cited above, but does not specifically teach the reflector including a deformation prevention part for preventing the base film from being deformed, whereby the deformation prevention part is formed on a second surface of the base film opposite to the first surface (re: Claim 6); wherein the deformation prevention part is embossed on the second surface of the base film (re: Claim 7); nor teaches the reflector including a plurality of the deformation prevention parts having a dotted pattern (re: Claim 8).

Yang teaches a reflector [Figure 2: (8)] including a base film [Figure 2: (15)], whereby a plurality of deformation prevention parts [Figure 2: (12)] in the form of a dotted pattern is provided/embossed on a second surface of the base film opposite to a first surface so as to prevent the film from being deformed [Column 6, Lines 13-40].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the reflector of Sinkoff to incorporate the deformation prevention parts of Yang in order to provide further protection to the shape of the reflecting film, as well as the base film from deforming.

Art Unit: 2875

12. Claims 10 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi et al. (WO 03/032073 A1) as applied to Claim 9 above, and further in view of Hira et al. (U.S. Patent 5961198).

Onishi discloses the claimed invention as cited above, but does not specifically teach a plurality of prism teeth formed on a surface of the light guide plate facing the reflector (re: Claim 10), an optical sheet layer disposed on the light guide plate and having a plurality of prism teeth on a surface thereof facing the light guide plate (re: Claim 13), wherein the prism teeth of the light guide plate are arranged in a direction across the prism teeth of the optical sheet layer (re: Claim 14).

Hira teaches a plurality of prism teeth [Figures 2, 5, 12: (10)] being formed on a surface of a light guide plate facing a reflector [Figures 5, 10: (11)], an optical sheet layer being disposed on the light guide plate and having a plurality of prism teeth on a surface thereof facing the light guide plate [Figure 3: (4, 5)] Column 3, Lines 21-28], wherein the prism teeth of the light guide plate [Figures 9-11: (10)] being arranged in a direction across the prism teeth of the optical sheet layer [Column 3, Lines 21-28, 44-49].

It would obvious to one ordinarily skilled in the art at the time of invention to modify the backlight assembly of Onishi to incorporate the light guide plate with prism teeth arranged in a direction across a plurality of prism teeth on an optical sheet layer, as taught by Hira, in order to permit a desired optical effect (reflectance) on the illumination, and thus, increase light efficiency of the backlight.

13. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi et al. (WO 03/032073 A1) as applied to Claim 9 above, and further in view of Yang et al. (U.S. Patent 6151089).

Onishi discloses the claimed invention as cited above, but does not specifically teach the reflector including a deformation prevention part for preventing the base film from being deformed, whereby the deformation prevention part is formed on a second surface of the base film opposite to the first surface (re: Claim 15).

Yang teaches a reflector [Figure 2: (8)] including a base film [Figure 2: (15)], whereby a plurality of deformation prevention parts [Figure 2: (12)] in the form of a dotted pattern is provided/embossed on a second surface of the base film opposite to a first surface so as to prevent the film from being deformed [Column 6, Lines 13-40].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the reflector of Onishi to incorporate the deformation prevention parts of Yang in order to provide further protection to the shape of the reflecting film, as well as the base film from deforming.

14. Claims 16 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi et al. (WO 03/032073 A1) in view of Yang et al. (U.S. Patent 6151089) as applied to Claim 15 above, and further in view of Hira et al. (U.S. Patent 5961198).

Onishi in view of Yang discloses the claimed invention as cited above, but does not specifically teach a plurality of prism teeth formed on a surface of the light guide plate facing the reflector (re: Claim 16), an optical sheet layer disposed on the light guide plate and having a plurality of prism teeth on a surface thereof facing the light



Art Unit: 2875

guide plate (re: Claim 19), wherein the prism teeth of the light guide plate are arranged in a direction across the prism teeth of the optical sheet layer (re: Claim 20).

Hira teaches a plurality of prism teeth [Figures 2, 5, 12: (10)] being formed on a surface of a light guide plate facing a reflector [Figures 5, 10: (11)], an optical sheet layer being disposed on the light guide plate and having a plurality of prism teeth on a surface thereof facing the light guide plate [Figure 3: (4, 5)] Column 3, Lines 21-28], wherein the prism teeth of the light guide plate [Figures 9-11: (10)] being arranged in a direction across the prism teeth of the optical sheet layer [Column 3, Lines 21-28, 44-49].

It would obvious to one ordinarily skilled in the art at the time of invention to modify the backlight assembly of Onishi in view of Yang to incorporate the light guide plate with prism teeth arranged in a direction across a plurality of prism teeth on an optical sheet layer, as taught by Hira, in order to permit a desired optical effect (reflectance) on the illumination, and thus, increase light efficiency of the backlight.

***Allowable Subject Matter***

15. Claims 11 and 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: The Applicant has sufficiently claimed and narrowly defined the protrusions of the reflector having a diameter smaller than a pitch of the prism teeth of the light guide plate. The prior art of record fails to teach or suggest the combination of structural

Art Unit: 2875

elements claimed herein, specifically a plurality of protrusions on a base film having a diameter smaller than a pitch of prism teeth disposed on a light guide plate.

17. Claims 12 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter: The Applicant has sufficiently claimed and narrowly defined an interval between adjacent protrusions on the base film varying in inverse proportion to a distance between the protrusions and the lamp unit. The prior art of record fails to teach or suggest the combination of structural elements claimed herein, specifically an interval between adjacent protrusions on a base film varying in inverse proportion to a distance between the protrusions and a lamp unit.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2875

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH (1/30/2006)

Jason M Han  
Examiner  
Art Unit 2875

  
**ALAN CARIASO**  
**PRIMARY EXAMINER**